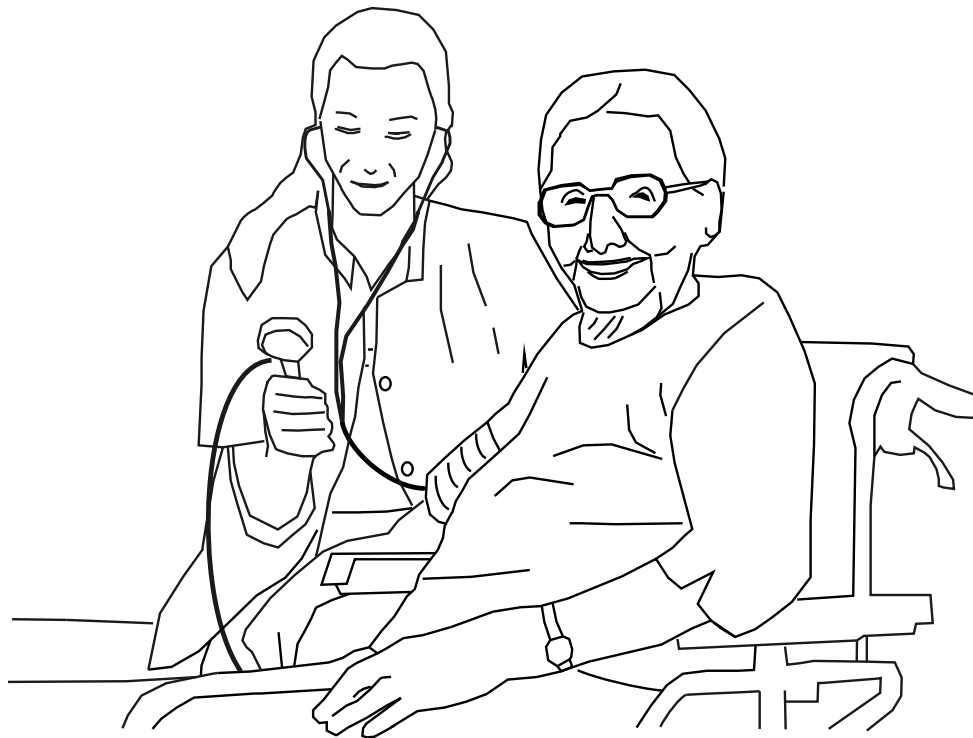


Airepi

New paradigm for the prophylaxis of COVID-19, and other pathogens by respiratory drops and bioaerosols

Patent pending ES-P202030970

COVID-19: Nursing Homes



“... The prescribed masks are not effective against bioaerosols, it depends on: exposure time, environmental viral load, susceptibility to COVID-19 (genetic factors, comorbidities ...), and the strain of SARS-CoV- 2 in circulation”

Javier Ferrer Alós

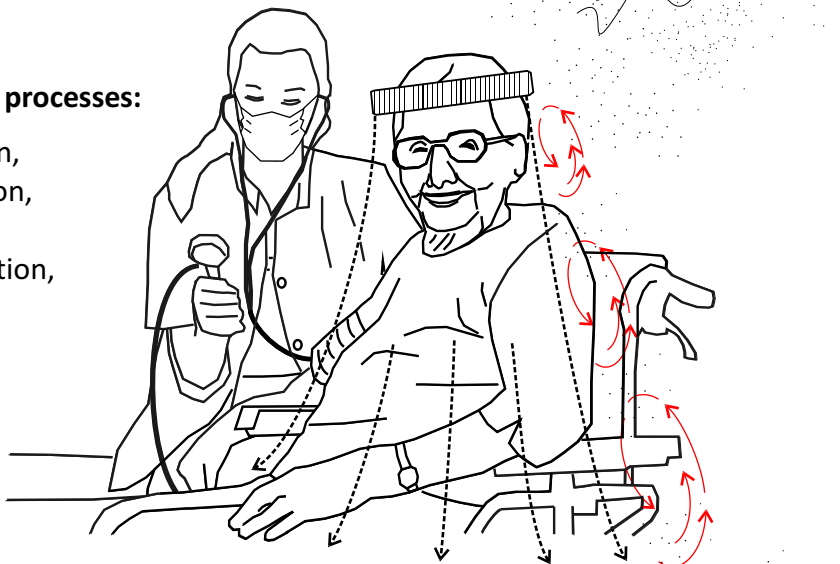
December 3, 2020 - v.1

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COVID-19: Nursing Homes

Physical processes:

deviation,
dispersion,
dilution,
evaporation,
removal



A - Airepi

New kinematic prophylaxis

Specific against aerosols

Pending validation:

Experiment # 1

Experiment # 2

Experiment # 3

[Pre-experimental Planning](#)

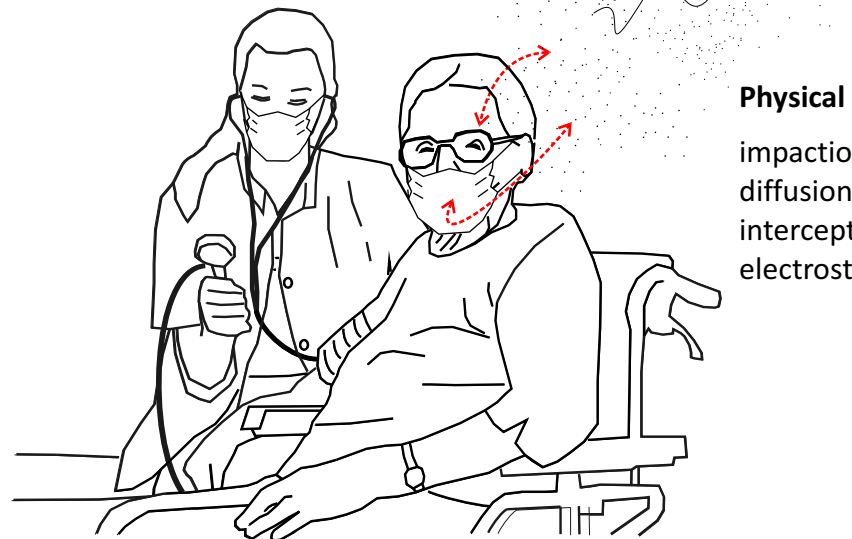
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Physical processes:

impaction,
diffusion,
interception,
electrostatic attraction



B - Surgical mask

Ineffective against bioaerosols

It depends on:

- time of SARS-CoV-2 exposure (inoculum)
- environmental viral load
- susceptibility to COVID-19 (genetic factors, comorbidities ...)
- SARS-CoV-2 strain

Which is more effective?
Which is more breathable?
Which is more ergonomic?
Which one would you wear?

A or B ?

Can we stop the spread with Stokes' Law, Langevin...?

Nursing Homes

COVID-19 is rampant in nursing homes. Prevention measures will last for months and even more than 1 year. The prescribed masks have a relative effectiveness in indoor environments, and depends on:

- exposure time (inoculum),
- environmental viral load (air quality and its movement),
- susceptibility to COVID-19 (genetic factors, comorbidities ...), and
- the strain of SARS-CoV-2 in circulation (D614G strain controversy).

On the other hand, it is not a device designed to be used by older people throughout all the day, weeks and months.

The new paradigm of prophylaxis with kinematic means, for personal use with mobility, is the proposal of **Airepi**. If its effectiveness is proven ([Pre-experimental Planning](#)) we would have a precedentless defense, with an early response, for this and the next pandemics with airborne transmission (the most dangerous).

It is necessary to discover a new effective and specific means of prevention against bioaerosols, which stops transmission, allow mobility and free economy and social relationships. We cannot only depend on vaccines and population confinements (dystopian society). Nor can we forget that mass vaccination can force SARS-CoV2-2 lineages that escape the neutralization of the generated antibodies (critical mutation). It does not seem that it will happen with this virus but it cannot be ruled out.

Airepi explores for the first time a new prevention paradigm based on kinematics. There is science and technique to investigate beyond the surgical mask which does not interrupt the spread, only slows it down. Globalization requires a new device for early response and personal use, which prevents the transmission of a pathogen through bioaerosols.

COVID-19 is just a proof of concept for future pandemics in an interconnected world

Airepi has to pass the Laboratory test, there is no time to lose.

Residencias de mayores

En las residencias de mayores la COVID-19 hace estragos. Las medidas de prevención van a perdurar durante meses e incluso más de 1 año. La mascarillas prescritas tienen una eficacia relativa en recintos cerrados, y depende de:

- el tiempo de exposición (inóculo),
- la carga vírica ambiental (calidad y movimiento del aire)
- la susceptibilidad a la COVID-19 (idiosincrasia, factores genéticos, comorbilidades...), y
- la cepa de SARS-CoV-2 en circulación (controversia de la cepa D614G).

Por otra parte, tampoco es un dispositivo diseñado para que lo usen personas mayores durante todo el día, semanas y meses.

El nuevo paradigma de profilaxis con medios cinemáticos, de uso personal con movilidad, es la propuesta de **Airepi**. Si se evidencia su eficacia ([Plan Pre-experimental](#)) tendríamos una inédita y provechosa defensa de respuesta temprana, para esta y las próximas pandemias con vía de transmisión por el aire (la más peligrosa).

Es imperativo descubrir un nuevo medio de prevención eficaz y específico contra bioarsoles, que corte la transmisión y no impida la movilidad de las personas, que no interrumpa la economía y las relaciones sociales. No podemos depender solo de las vacunas y de los confinamientos (sociedad distópica). Tampoco podemos olvidar que la vacunación masiva puede forzar linajes de SARS-CoV2-2 que escapen a la neutralización de los anticuerpos generados (mutación crítica). No parece que vaya a ocurrir con este virus pero no se puede descartar.

Airepi explora por primera vez un nuevo paradigma de prevención basado en la cinemática. Hay ciencia y técnica para investigar más allá de la mascarilla quirúrgica que no interrumpe la propagación, solo la disminuye. La globalización requiere un nuevo dispositivo de respuesta temprana de uso personal, que impida la transmisión de un agente patógeno a través de bioarsoles.

La COVID-19 es solo la prueba de concepto de las futuras pandemias en un mundo interconectado.

Airepi tiene que pasar la prueba de Laboratorio, no hay tiempo que perder.